MENTORING RESIDENT SCHOLARLY ACTIVITY:
A Tool Kit and Guide for Program Directors, Research Directors and Faculty Mentors

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List of all the resource files included in submission:
Research Mentoring Faculty Toolkit

Explanation of when, how and the order in which to use each resource file:
Research Mentoring Faculty Toolkit- This toolkit is designed for two purposes. First, it can be utilized by leadership to facilitate faculty development in research mentoring for graduate medical trainees. Second, it can be used as a resource for faculty to help guide them through the research mentoring process. As a toolkit, leaders and individual faculty members can use only the portions of the toolkit that complement their own efforts or use the toolkit in its entirety.

The purpose/goal of the resource:
Research Mentoring Faculty Toolkit- The purpose of the Research Mentoring Faculty Toolkit is to be a resource for programs and faculty members and to help improve the research mentoring process for trainees. The toolkit contains many different elements designed to help programs better meet the Accreditation Council for Graduate Medical Education (ACGME) requirements around scholarly activity training for residents.

Educational Objectives:
This toolkit has several objectives. We have mapped each to the corresponding pages within the toolkit.

- Program directors will enhance his/her abilities to define, structure, and use program requirements to facilitate effective engagement in scholarly activities. (pp. 1-5, appendices a, b, c, d)
- Faculty and trainees will enhance his/her abilities to establish scholarly projects that can be completed during training. (pp. 6-13)
- Faculty will enhance his/her abilities to mentor trainees to choose and effectively complete a scholarly project during training. (pp. 14-18)

Conceptual background (why and how it was created):
Research Mentoring Faculty Toolkit - The Accreditation Council for Graduate Medical Education (ACGME) states that “residents should participate in scholarly activity” but provides little guidance for programs on how to best meet these requirements. To successfully have residents participating in scholarly activity requires strong faculty mentoring, which, for research, requires a specific set of skills. For programs interested in developing or enhancing a research program, this toolkit guides program directors through key considerations for developing a research program and provides resources they can give to faculty to help build strong mentoring relationships. For faculty, we provide resources to facilitate the mentoring process, such as how to navigate an IRB, where to look for research funding, and how to help trainees remain on track with their research project. These resources were compiled from resources used by various program directors that are part of the Association for Pediatric Program Directors Research and Scholarship Task Force and have developed these resources internally for their own programs.
Practical implementation advice (materials needed, length of session, faculty, facilitator needs, preparation needs):

Research Mentoring Faculty Toolkit- Because graduate medical education programs approach requirements around scholarly activity variably, we have designed this toolkit such that programs can be flexible in what they choose to utilize and how they choose to implement the material.

How has it been successfully deployed (including common pitfalls, tips for success, etc)

Effectiveness and Significance:

This toolkit was created by the authors in response to concerns (both from faculty in their individual institutions and in discussions at national meetings) about a lack of resources available to guide program directors and faculty in mentoring trainees in scholarly activity. The authors shared practices from their own institutions, working together to compile resources and address gaps in available materials. These materials have subsequently been implemented at 5 institutions through various methods which include: direct dissemination to faculty mentors either electronically or by hard copy in person, discussion of contents at faculty meetings, and new resident orientation. In addition, select material has also been distributed at several national meetings (APPD, PAS).

Qualitative feedback has been obtained by informally surveying program directors, research directors and faculty mentors at all 6 institutions. Survey results are uniformly positive. Program directors and research directors report that the materials have allowed our programs to better clarify requirements for resident scholarship in our programs and enabled us to help guide faculty in their roles as mentors. A subset of faculty and their individual resident mentees would agree that this material has been useful in framing realistic expectations for a trainee research project, to better focus questions to navigate the IRB process, and to develop timelines for completion of work. Both residents and faculty find it helpful to have concrete, mutually agreed upon expectations as specified in the worksheets of this tool kit. Putting it in writing strengthens the mentor-mentee relationship. In general, junior faculty and those with less experience mentoring residents have found the tool kit contents to be more useful than more senior / more experienced faculty. Contents of the tool kit was also presented by members of this work group at a PAS 2014 workshop. Attendees of the workshop similarly found the material in the toolkit useful. As one participant wrote in their evaluation: “The most useful aspects (of this workshop) are the materials to take back and apply to our own programs.”

Lessons Learned:
This tool kit was created based upon the experiences from 6 different institutions. What appears to be most valuable from a program leadership standpoint is to develop clear expectations as to programmatic requirements for resident scholarly activity, and then adapt the tools presented in this toolkit accordingly. For example, all 6 programs have found that having specific timelines are extremely useful in creating clear and realistic expectations for both faculty and residents. In addition, we have learned that timelines that are enforced with real consequences, such as not allowing a research elective without an approved research proposal, are often needed. Feedback from residents and faculty within individual programs, however, has resulted in slightly differing timelines across the programs. For instance, one institution has moved introduction to the scholarly requirements from new resident orientation in June to an October date as residents beginning their residency reported that they were too overwhelmed by the clinical requirements and did not retain much from the June discussion. This same institution has created a “faculty scholarly interest handbook” where faculty profile their academic interests and active projects. The handbook is revised annually and distributed to residents each July. Residents may then reach out to specific faculty mentors individually or be introduced to them in a “meet and greet” session in the Fall whereby residents may meet/interview potential faculty mentors and discuss scholarly interests in a dedicated time slot.

Furthermore, faculty and residents report that the IRB process is the most daunting part of the research process for those less experienced. The IRB section in this tool kit is helpful, but a live overview of IRB requirements and the IRB process, and question/answer session may be a necessary supplement and allow the tool kit to serve as an adjunctive tool. Finally, for faculty, we would likewise recommend that the key to using these tools successfully to mentor residents in research is to be clear up front about your expectations and what you can provide as a mentor (in terms of both skills and time). Equal engagement of the resident and faculty mentor is essential.

**What are the limitations of the resource and what are your ideas for improving/expanding it (adding self-reflection component is encouraged)?**

Research Mentoring Faculty Toolkit- While we have developed the resources to make them as broadly generalizable as possible, every program is unique and therefore the materials may have to be adapted or modified by individual programs to best serve their needs. Likewise, faculty members have varying levels of skills and experience with research mentoring and thus not all materials will be useful, particularly to those with substantial research experience. This is particularly true for sections such as navigating the IRB. Our intent is to provide a broad array of materials to meet many different needs and to continue to expand the scope of what we provide based on ongoing feedback provided as more people utilize these resources.
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Defining Resident Scholarship and Considerations for Program Directors and Research Directors

Resident participation in scholarly projects is an ACGME requirement. To help make it a fulfilling experience, there are a few questions to consider when beginning a resident scholarly activity program or re-evaluating and growing an existing program.

1. Will participation in a scholarly project be a requirement for graduation?
   - Yes
   - No

2. Will annual promotion be linked to progress on scholarly activity?
   - Yes
   - No

3. How will you define scholarly activity for the purposes of this program?
   - Original research studies (basic, clinic, health services, education, etc.)
   - Systematic literature review of meta-analysis
   - Case reports or case series (with references)
   - Book chapter
   - Quality improvement projects
   - Advocacy projects
   - Curriculum development
   - Local conference/workshop presentation to residents and/or medical students
   - Grand Rounds presentation
   - Regional or national workshop presentation

4. What will be the minimum requirements for scholarly activity in your program?
   - Participation in a scholarly project
   - Submission of an institutional review board (IRB) application
   - Submission of a written report to the residency program
   - Local presentation
   - Regional presentation
5. How much time is a resident going to have for research
   - Research blocks/days ________________________________
   - Elective time ________________________________

6. When are things due?
   - Standardized timelines by class year
   - Individual Timelines
   - No specific timelines

7. Who comprises the pool of mentors?

8. Does this pool of mentors need to be expanded, and if so, how should this be done?

9. How will you connect your mentors and mentees?
Creating Resident Scholarly Activity Timeline: For Research Directors

A timeline with specific, realistic expectations and deadlines will help residents and mentors to successfully complete a scholarly project.

**These are a few things to consider before coming up with timelines.**

- What are the requirements for the program regarding resident scholarly activity? (Ex: graduating residents must present their scholarly activity at Pediatric grand rounds during May and June, residents must present on research day or at a regional conference)
- Are there any specific conferences at which the program would like residents to present and when are the deadlines for abstract submissions? (Eg.: PAS-November, AAP national conference- April, PHM- January, Institutional research day?)
- Is there a requirement to complete certain aspects of scholarly activity for residents to be promoted?
- What is the end point of a research project? (eg.: submit an abstract or make a graduation presentation)
- Work should be submitted to the faculty mentor 2-3 weeks earlier than the program’s submission deadline to assure sufficient time for revisions.

**General Tips in creating timeline for residents (See Appendix A-1 for sample resident timeline)**

- Define the end point of a research project
- From that endpoint back track and create a timeline
  - 2-4 weeks prior: Complete presentation/complete abstract/poster
  - 3 months prior: Complete data analysis
  - 5 months prior: Complete data collection
  - 12-18 months prior: IRB submitted and approved to start project (this will depend on what type of research the resident is doing)
  - 18-24 months prior: resident has identified a project and is working on IRB submission
- If your institution offers research blocks, you can use them to advance the project
  - 1st research block: work on 1st part of abstract (background, literature search, specific aims, methods, IRB submission if required)
  - 2nd research block: complete your abstract (Results, data collection, analysis and conclusions)
- Resident and Faculty mentor should meet 1-2 weeks prior to the presentation date to review final slides/poster
• Residents can be expected to follow up with research director with their progress either by email or research meetings

**Faculty Research Mentor Timeline (See Appendix A-2 for sample faculty mentor timeline)**

• Once faculty has agreed to mentor a resident with their scholarly project, faculty should review the program’s expectations and deadline

• Faculty should discuss and encourage residents to submit their work to conferences and review abstract deadlines

• Faculty should check with residents at least 2-4 weeks prior to the actual deadline to monitor progress
How to look for help in your institution

If you are the research director, it is helpful to have the list of support staff in your institution to distribute to faculty research mentors.

If you are the faculty mentor, reach out to the research director to seek help in your institution. This can save a tremendous amount of time.

See below for list of important resources. (See Appendix B for sample list)

Research Directors check list

1. List of support staff – have contact information (email and phone number) listed
   - Medical Librarian
   - Medical Statistician (help with research protocol and data analysis)
   - Research Coordinator (to help with IRB paper work, consents etc.)
   - Regional IRB staff
   - Grant support
   - Department of Preventive Health

2. Keep track of faculty research projects and areas of interest. This will help you facilitate mentor mentee pairing.

3. Keep track of previous research projects and on-going projects

Faculty Mentor check list

1. Who is the resident scholarly activity director?
   - Meet with the director to understand the expectations and deadline for resident scholarly activity
   - Review current on-going projects
   - Review previous research projects done by residents.
   - Is there a list of support staff?
   - Is there a research committee? Who sits on the committee?
     - When is the meeting - attend meetings with the resident
An Overview: Checklist for Research Mentors

Things to keep in mind (i.e. Residents are not post-docs.)

1. **Know your residents’ scholarship requirements.**
   - Understand your residents’ scholarship requirements
   - Determine how much dedicated time your resident has for research
   - Determine when different portions your resident’s scholarly project are due

2. **Know your resident.** Residents’ prior research experience is variable. Make sure you understand a resident’s prior level of research experience and how much training will be needed to complete the proposed project. Tailor the project to minimize the amount of new techniques/things the resident will need to learn.
   - Determine how much prior research experience your resident has had

3. **Project feasibility:** Take the time you think it will take to do the project and multiply by 5. Remember, this is often the first time the resident has done this type of project.
   - IRB
     - Determine if this project will require IRB approval
     - Determine how much additional time it will take to obtain IRB approval
   - Specific aim
     - Focus the project enough so that it can be completed during the resident elective block time.
   - Research design
     - Minimize the number of new things the resident must learn in order to perform the research (eg. new laboratory techniques, chart review protocol, etc.)
       1. What new things will the resident need to learn how to do in order to make the project successful?
       2. How much time will it take to teach the resident these new things?
       3. Who will teach the resident how to do these new things?
     - Determine how data collection will be performed
       1. Who will perform data collection?

**Analysis.** If resident, or you, cannot do analysis, enlist a statistician early.
• Discuss analysis in advance.
  • How will data analysis be performed?
  • Who will perform data analysis?

4. **Residents’ time is limited.** Time available outside of research elective block time is limited. Residents often have conflicting clinical responsibilities. Residents on inpatient rotations (such as critical care, ward) will not have time to do research. Even when a resident says they will do research on weekends and nights, that is often not a realistic expectation.

a. **What is reasonable to expect PRIOR to research elective block time?**

  • Resident performs background reading on project
    • What background reading do you want the resident to complete prior to the research block?
    • Did the resident complete the background reading as you asked?
  
  • Periodic meetings with resident to decide on research project PRIOR to research blocks
    • How frequently do you want to meet prior to the residents’ research elective block?
      - Have you scheduled your next meeting?
      - When is your next meeting?
      - What is the action item due from the resident PRIOR to your next meeting?
    • What is your project?
    • Is project focused enough to be completed during the research elective block time?
  
  • Resident obtains CITI IRB certification
    • Is the resident IRB certified?
    • If not, how does the resident obtain IRB certification in your institution?
    • Tell the resident which IRB certification(s) they need depending on the nature of your research project.
    • (Are you IRB certified?)

b. **Make the most of research elective block time.** Be aware that residents still have ½ day a week in continuity clinic and their required didactics during their research elective. Residents may be called away for jeopardy call to cover a service for a sick colleague or to cover a night or weekend inpatient service.

  • **Frequency of meetings during resident research block time.** Schedule weekly (or more frequent) meetings during research elective block and outline action items and deadlines
    • Determine how frequently you want to meet
    • Schedule your next meeting (or next few meetings) prior to leaving your meeting
    • Assign action items due at each meeting
5. IRB: If you are thinking of ever publishing/presenting the research, you will need IRB approval prior to initiation of research. Even if you don’t need IRB approval for your research, it might be helpful to have the resident write a brief background, specific aims, methods, and analysis plan proposal prior to initiation of the project.

- If IRB approval is needed, consider asking resident to schedule a 2-week initial research elective block to write/submit IRB application.
  - Then schedule the additional research block 3-6 months later (depending on the rapidity of your IRB turnaround.)
- Resident to obtain CITI IRB certification PRIOR to research block
- IRB application submission
  - Give the resident an example of one of your prior (similar) IRB applications
  - Discuss exactly which IRB application(s) are needed (exempt, expedited, full . . . additional forms)
  - Discuss what goes in each portion of IRB application
  - Review/revise IRB application prior to submission

6. Dissemination

- Discuss authorship order in advance
  a. Abstract
    - Give the resident an example of one of your prior (similar) abstracts
    - Discuss what goes in each portion of abstract
    - Discuss where to submit
    - Review/revise abstract prior to submission
  
  b. Poster
    - Give the resident an example of one of your prior (similar) posters
    - Discuss what goes in each portion of poster
    - Give resident your poster template
    - Review/revise poster
    - Share with resident where/how you get your poster printed
    - Discuss with resident how to present their research if someone talks with them at their poster
  
  c. Oral presentation
    - Discuss what goes in each portion of oral presentation/slides
    - Review/revise slides
• Have the resident practice both presenting and fielding questions

d. Paper
• Discuss authorship order and criteria in advance
• Discuss where to submit
• Give the resident an example of similar paper in journal you intend to submit to
• Give resident copy of Author Instructions
• Discuss what goes in each portion of paper
  • Outline
  • Mock Tables
• Train the resident in how to use Endnote or other citation manager
• Review/revise paper
• Give the resident an example of Submission Letter
  • Discuss what goes in submission letter
  • Review/revise submission letter
• Give the resident example of response to editors and reviewers
  • Discuss what goes into response letter
  • Review/revise response letter

7. Have fun! You may have launched a budding academician!
Mentoring a trainee to successful completion of a project can be challenging. Here are some things to consider before embarking on a project.

### A. Is this the right mentor – mentee relationship?

<table>
<thead>
<tr>
<th>Mentee’s research interests:</th>
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<tbody>
<tr>
<td>Mentor’s research interests:</td>
</tr>
<tr>
<td>Mutual research Interests:</td>
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<tr>
<td>Does the project satisfy mutual interests?</td>
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<tr>
<td>Are the mentor and mentee’s work styles compatible (plans ahead, procrastinates)?</td>
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</table>
B. Mentor and Mentee Experience/ Availability

<table>
<thead>
<tr>
<th>Mentor’s Experience and resources related to the proposed project (knowledge, skills, space provisions):</th>
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<table>
<thead>
<tr>
<th>Mentee’s Experience related to research question (knowledge, skills):</th>
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<table>
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<tr>
<th>Does the mentor have time to supervise this project?</th>
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<table>
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<tr>
<th>Does the mentee have time to successfully complete this project?</th>
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<td>------------------------------------------------------------------</td>
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C. Mentor-Mentee Gaps/Deficiencies Related to Project

<table>
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<tr>
<th>Mentor skills, knowledge and resources needed:</th>
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<table>
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<tr>
<th>Mentee skills and knowledge needed:</th>
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<table>
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<tr>
<th>Who will help with these gaps? (See pages 5, 23)</th>
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<table>
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<tr>
<th>Who else is required to assist in project?</th>
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</table>
Mentor’s Experience and resources related to the proposed project (knowledge, skills, space provisions):

Mentee’s Experience related to research question (knowledge, skills):

Does the mentor have time to supervise this project?

Does the mentee have time to successfully complete this project?

---

D. Keeping Expectations Realistic

Is the scope of the project appropriate for the mentor and mentee?

Methods of communication between mentor-mentee with timelines, deadlines and expectations clearly defined:

Plan of ongoing reassessment of expectations at designated time intervals (recurring meetings, email communication etc.):
Given the scope of this project, does the mentor have time to participate?

If no, what solutions are available (reduce the scope of the project, other possible mentors)?

Given the scope of this project, does the mentee have time to participate?

If no, what solutions are available (reduce the scope of the project, involve other trainees or a medical student)?
Determining the Appropriateness of a Trainee Research Question

Deciding to mentor a trainee involves not only helping them to select an appropriate research question, but ensuring that you will be able to adequately mentor them. Here are some questions to consider:

<table>
<thead>
<tr>
<th>Trainee’s Research Question</th>
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<tr>
<td>Is it specific?</td>
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<tr>
<td>Is it measurable?</td>
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<tr>
<td>What are the outcomes to be assessed?</td>
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<tr>
<td>Is it achievable?</td>
</tr>
<tr>
<td>• What resources are necessary to complete this project? (knowledge, skills, time, financial)</td>
</tr>
<tr>
<td>• What resources are available?</td>
</tr>
<tr>
<td>• What resources are we lacking?</td>
</tr>
<tr>
<td>• Am I the best mentor for this project?</td>
</tr>
</tbody>
</table>
Is it relevant?

- What is the problem in the universe the trainee wants to address?

- What is known? What is unknown?

- How does this study fill those gaps?

- How will this enhance my portfolio (research, education)?

Is it timely?

- What is the realistic time-frame for completing this project?

- Is that consistent with expectations for the resident?

- Is that consistent with my own schedule?

The Institutional Review Board (IRB) is an independent ethical review board that is responsible for approving and monitoring research involving human subjects. Any research that you would like to do involving humans must be approved by your institution’s IRB.

Obtaining IRB approval can sometimes feel like a daunting task especially for junior investigators; however, with preparation and help from knowledgeable colleagues it does not have to be an unpleasant or intimidating experience. Prior to applying for IRB approval, all members of the research team must complete their IRB training certification. This will need to be periodically updated (length of time between updates is dictated by your institution’s IRB). “All members of the research team” includes students or any other staff member that will be involved in any aspect of the project including data entry. Many IRBs require completion of CITI (Collaborative Institutional Training Initiative) training which is an online research education course. You may also obtain CME for this course which can be found at www.citiprogram.org. The best place to start is your institution’s IRB website for specific requirements. Even if you have completed CITI training at another institution, your current institution’s IRB may require you to complete it again. That is why it is best to familiarize yourself with your institution’s IRB website first.

While answers to many questions can be found on your institution’s IRB website, do not be afraid to contact the IRB directly. IRBs have many rules that may not make sense to a less experienced investigator so the best thing to do is ask.

If your research involves human subjects and you are planning to disseminate your results, you will likely need IRB approval. The appendix of this tool kit contains a worksheet which can assist you in determining if your project needs IRB approval. However, only IRBs can allow IRB exemptions. If in doubt, contact your IRB.
IRB CHECKLIST

Projects requiring IRB Approval:

- Involvement of Human Subjects
- Chart review
- Surveys and questionnaires
- Clinical research
- Drug/device trials
- Basic science research involving human subjects
- Case reports – institution specific; check with your IRB first
- Utilization of existing data that has no patient identifiers linked to it; check with your IRB first
- Think you might publish or disseminate your work – get IRB approval

Projects that DO NOT require IRB Approval

- Basic science research (animal research has own requirements)
- Curricular design

Workshop CITI or other IRB TRAINING COMPLETE

- Mentor
- Resident Mentee
- Other members of the research team

IRB Contact Person ____________________________________________

Notes ___________________________________________________________________________________________
________________________________________________________________
________________________________________________________________________
Creating Resident Scholarly Activity Timeline: For Faculty Mentors

As you work with your mentee on their scholarly project, it will be helpful to have a realistic timeline with specific expectations to complete a successful project. These are a few things to consider as you create a timeline for your mentee.

- Discuss with your program director or research director your program’s specific deadlines.
- Meet with your mentee to review the timeline. Adjust the timeline if needed. (For specific abstract deadlines, presentations etc.)
- Check in with your mentee at least 2-4 weeks prior to the actual deadline to monitor their progress.

Please review Appendix A-1 (for sample resident timeline) and A-2 (for sample faculty mentor timeline).
Strategy for Getting Educational Grants

- Assess the competition in the field
- Know the level of resources needed to compete
  - Do an organizational assessment
  - Look for opportunities to build research with support from various sources (hospital QI funds, grants, required new curriculum)
- Make sure you and your collaborators are properly trained for the research (designing a survey, doing qualitative analysis)
- Closely examine grant applications from successful grantees if available.
- Read the instructions of the grant closely and follow them to the letter
- Have experienced grantees critique your application
- Consider where you want to apply for grants
- Consider where you want to present and publish

Ten Basic Questions Grant Reviewers Ask

- How high are the intellectual quality and merit of the study?
- What is its potential impact?
- How novel is the proposal?
- If not novel, to what extent does potential impact overcome this lack?
- Is the research likely to produce new data & concepts or confirm existing hypotheses?
- Is the hypothesis valid and have you presented evidence supporting it?
- Are the aims logical?
- Are the study methods appropriate, adequate and feasible for the research?
- Are the investigators qualified? Have they shown competence, credentials, and experience?
- Are the facilities adequate and the environment conducive to the research?
Developing the Hypothesis

- Know the Field
- Read the entire grant application
- Choose an excellent hypothesis to pursue
- Choose a means to test your hypothesis
- Provide a rationale for the hypothesis
- Consider alternative hypotheses
- In background reveal that you are aware of gaps or discrepancies in the field.
- Show familiarity with unpublished work or preliminary work you have done.
- Identify the next logical stage of research beyond your current application.
- Address potential difficulties and consider the limitations of each approach.

Grant Application Contents (follow the exact outline of the grant application instructions)

1. Face page
2. Description (abstract)
3. Performance sites
4. Key personnel
5. Table of contents
   a. Detailed budget for initial budget period
   b. Budget for entire proposed period of support
   c. Biographical sketch
   d. Other support
6. Resources
7. Research Plan
8. Appendix
9. Checklist
10. Personnel report
11. Personal data

Modified by L. A. Waggoner-Fountain, MD, January 30, 2014 from PHS 38 NIH grant proposal instructions
Sample Resident Timeline

This is a sample timeline with the end points of submitting an abstract to PAS (November) in their 3rd year, presenting at an Institutional Research Day (February) and presenting at Grand Rounds (May or June).

<table>
<thead>
<tr>
<th>Level of Training</th>
<th>Tasks</th>
<th>Deadline</th>
</tr>
</thead>
</table>
| PGY1             | • Introduction to research by faculty  
• Complete CITI training  
• Research mentor and research idea formulated  
• Specific Project identified  
• Work on IRB paperwork (abstract, protocol) and meet with research committee | October  
December  
January-February  
March-April  
June |
| PGY2             | • IRB submitted  
• Obtained IRB approval  
• Research in progress (active data collection, chart reviews etc.)  
• Research near completion | August  
October (you can include specific dates)  
November  
June |
| PGY3             | • Data analysis in progress  
• Submit to PAS (if ready or applicable)  
• Submit to Institutional Research Symposium  
• Work on presentation  
• Presentation at Grand Rounds | August-October  
November  
February  
April  
May-June |
Sample Faculty Mentor Timeline

This is a sample timeline with the end points of submitting an abstract to PAS (November) in their 3rd year, presenting at an Institutional Research Day (February) and presenting at Grand Rounds (May or June).

<table>
<thead>
<tr>
<th>What year is your resident?</th>
<th>Mentor’s check list</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY1</td>
<td>Resident has started CITI training</td>
<td>November</td>
</tr>
<tr>
<td></td>
<td>Resident has completed CITI training</td>
<td>December</td>
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<tr>
<td></td>
<td>Discuss research ideas</td>
<td>January - February</td>
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<tr>
<td></td>
<td>Specific Project identified</td>
<td>March-April</td>
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<tr>
<td></td>
<td>IRB paperwork (abstract, protocol) completed and ready to meet with research committee</td>
<td>May</td>
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<tr>
<td>PGY2</td>
<td>Ready to submit to IRB</td>
<td>July</td>
</tr>
<tr>
<td></td>
<td>IRB approval obtained</td>
<td>October</td>
</tr>
<tr>
<td></td>
<td>Research in progress</td>
<td>November</td>
</tr>
<tr>
<td></td>
<td>Research near completion</td>
<td>May</td>
</tr>
<tr>
<td>PGY3</td>
<td>Active plans for data analysis</td>
<td>July-September</td>
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<tr>
<td></td>
<td>Meet with statistician and resident to review the data</td>
<td>October</td>
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<tr>
<td></td>
<td>Submit to PAS (if applicable)</td>
<td>November</td>
</tr>
<tr>
<td></td>
<td>Ready to submit to Institutional Research Symposium</td>
<td>January</td>
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<tr>
<td></td>
<td>Review presentation</td>
<td>April</td>
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<tr>
<td></td>
<td>Attend Grand Rounds</td>
<td>May-June</td>
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</tbody>
</table>
## Sample List of Resources in your Institution

<table>
<thead>
<tr>
<th>Resource</th>
<th>Name</th>
<th>Email</th>
<th>Phone Number</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Director</td>
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<tr>
<td>Research Coordinator</td>
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<tr>
<td>Medical librarian</td>
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<tr>
<td>Medical statistician</td>
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<tr>
<td>Regional IRB staff</td>
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<tr>
<td>Grant support person</td>
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<tr>
<td>Department of preventive health</td>
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<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Appendix

Funding Sources for Scholarship Grants

Agency for Healthcare Research and Quality (AHRQ) Grants:
http://www.ahrq.gov/fund/grantix.htm

Arnold P. Gold Foundation:
http://humanism-in-medicine.org/index.php/programs_grants

Arthur Vining Davis Foundations:
http://www.avdf.org/FoundationsPrograms/HealthCare.aspx

AstraZeneca Medical Education Research Grants:
http://www.astrazenecagrannts.com/

Fund for the Improvement of Postsecondary Education (FIPSE):
http://www2.ed.gov/about/offices/list/ope/fipse/index.html

George Washington Institute for Spirituality & Health (Gwish):
http://www.gwumc.edu/gwish/awards/index.cfm

Henry J. Kaiser Family Foundation, The
http://www.kff.org/

HRSA- U. S. Department of Health and Human Services
http://www.hrsa.gov/

Josiah Marcy, Jr. Foundation:
http://www.josiahmarcyfoundation.org/apply/grant-programs

National Institutes of Health
http://grants1.nih.gov/grants/index.cfm

AERA (American Educational Research Association) Grants Program
This program provides small grants, fellowships, and training for researchers conducting policy studies using quantitative methods. http://www.aera.net/grantsprogram/

American Medical Colleges
Alpha Omega Alpha Robert J. Glaser Distinguished Teaching Awards
Washington, DC
Funds for $10,000 grants to recognize the significant contribution to medical education made by gifted teachers.

Arthur Vining Davis Foundation
Health Care (Caring Attitude) Program
Jacksonville, FL
Founds for curricular projects on communication skills, caring attitudes, compassionate care.

The Chronicle of Philanthropy - Guide to Grants
The Guide to Grants is an electronic database of foundation and corporate grants. Subscription rates are available for terms ranging from one week to one year. See http://philanthropy.com/subscribe/grants-subscribe.htm.
Department of Education, Office of Postsecondary Education, Higher Education and Continuing Education Programs
Fund for the Improvement of Postsecondary Education (FIPSE) - Comprehensive Program
Washington, DC
Funds for training programs, teaching, curriculum development, program development, operating or general support-innovate reforms in curriculum and instruction of various kinds, especially through student-centered or technology-mediated strategies, more cost-effective ways of improving postsecondary instruction and operations, new ways of ensuring equal access to postsecondary education, retention and program completion, especially for under-represented students.

The Edward J. Stemmler Medical Education Research Fund of the National Board of Medical Examiners
this fund offers support for research or development of innovative assessment approaches that may enhance the assessment of those preparing to or continuing to practice medicine. A maximum grant of $70,000 may be granted for a project period up to two years. [http://www.nbme.org/research/stemmler/index.html](http://www.nbme.org/research/stemmler/index.html)

Foundation for Advancement of International Education and Research (FAIMER)
International Fellowships in Medical Education
Philadelphia, PA
Funds for faculty from schools of medicine abroad to gain access to opportunities in the US. Fellows study aspects of medical education that have the potential to improve and expand medical education programs in their home country institutions and departments. Eligible areas of study include methodology, curriculum design, and evaluation systems. Study may be conducted in departments of medical education or traditional disciplines of clinical or basic sciences.

The Foundation Center

- The Foundation Center Directory Online is a subscription service of 200,000 grants of $10,000 or more. See [http://fconline.fdncenter.org/learnmore/plan_premium.html](http://fconline.fdncenter.org/learnmore/plan_premium.html)

Arnold P. Gold Foundation
Funds for curricular programs involving humanism, ethics, compassion in medicine.

GrantsNet (US Dept. of HHS)
to find and exchange information about 300 HHS and other Federal grant programs, this site serves the general public, the grantee community, and grant-makers. [http://sciencecareers.sciencemag.org/funding](http://sciencecareers.sciencemag.org/funding)

Health and Human Services, Health Resources and Services Administration
Bureau of Health Professions - Medicine
Academic Administration Units in Primary Care
Gaithersburg, MD
Funds for training programs - to meet the costs of projects to establish, maintain or improve academic administrative units to improved clinical instruction in family medicine, general internal medicine, and/or general pediatrics.

Health and Human Services, Health Resources and Services Administration
Bureau of Health Professions, Health Professionals Programs
Basic/Core Area Health Education Centers (AHECs)
Rockville, MD
Funds for training programs (i.e., cooperative agreements to assist schools to provide community-based training to primary care-oriented students, residents, and providers in the geographic region served by the school.

Mentoring Resident Scholarly Activity
Health and Human Services, Health Resources and Services Administration
Bureau of Health Professions - Medicine
Faculty Development in Primary Care
Gaithersburg, MD
Funds for training programs to plan, develop, and operate (including provide financial assistance) programs for training physicians who plan to reach in family medicine (including geriatrics), general internal medicine, and/or general pediatrics.

Health and Human Services, Centers for Disease Control and Prevention
Potential Extramural Research Projects
Atlanta, GA
Funds for generally research projects, but curriculum development for preventative medicine projects of interest to the Centers for Disease Control and Prevention (CDC) have received funding.

Health and Human Services, Health Resources and Services Administration
Bureau of Health Professions - Medicine
Predoctoral Training in Primary Care
Rockville, MD
Funds for training programs to plan, develop, and operate or participate in (including provide financial assistance) predoctoral programs in family medicine, general internal medicine, and/or general pediatrics.

Health and Human Services - National Institutes of Health
National Cancer Institute
Cancer Education and Career Development Program
Bethesda, NMD
Funds for development and implementation of curriculum dependent programs to train predoctoral and postdoctoral candidates in cancer research settings that are highly interdisciplinary and collaborative

IRIS: The Illinois Researcher Information Service
IRIS is a free online database listing government and private grant support. See http://gateway.library.uiuc.edu/iris/

Robert Wood Johnson Foundation
This foundation annually funds program development, faculty scholars, seed money, particularly in areas related to health services, chronic health care, and substance abuse. http://www.rwjf.org/grants/

Kellogg Forum on Higher Education for the Public Good
Funds for support of research in any discipline that explores higher education’s role in serving the public good.

Emily Davis and Joseph S. Kornfeld Foundation
Brooklyn, NY
Funds for curricular development, program development, seed money in bioethics, end-of-life, palliative care, treatment of pain.

Larsen Fund
New York, NY
Funds curricular development, education research

Josiah Macy (Jr.) Foundation
New York, NY
Funds program development, conferences, seminars, curriculum development

National Academy of Education Fellowship
New York, NY
Fellowship support to study matters relevant to improvement of education
National Board of Medical Examiners
Edward J. Stemmler, MD, Medical Education Research Fund
Philadelphia, PA
Funds research, training, curriculum, or program development

Rockefeller Foundation
This global foundation is committed to enriching and sustaining the lives and livelihoods of poor and excluded people throughout the world, using four “themes” around which they organize their grant making: food security, more equitable health outcomes, work opportunities, and creative expression opportunities.

Samuel Freeman Charitable Trust
New York, NY
Funds medical school/education, seed money

Christopher D. Smithers Foundation
Funds program development, conferences, seminars, seed money in the field of alcoholism
Appendix D

Medical Education Journals

The following is a list of selected journals that specifically focus on the field of medical education and that accept submissions on research and innovations.


*BMC Medical Education*: [http://www.biomedcentral.com/bmcmededuc/](http://www.biomedcentral.com/bmcmededuc/)

*Clinical Teacher:*

*Education for Health: Change in Learning and Practice*: [www.educationforhealth.net](http://www.educationforhealth.net)


*MedEdWorld*: [www.mededworld.org](http://www.mededworld.org)

*MedEdPORTAL*: [http://services.aamc.org/30/mededportal/servlet/segment/mededportal/information/](http://services.aamc.org/30/mededportal/servlet/segment/mededportal/information/)


*Medical Education Online (MEO)*: [http://www.med-ed-online.org/](http://www.med-ed-online.org/)


*Teaching and Learning in Medicine*: [http://www.siumed.edu/tlm/](http://www.siumed.edu/tlm/)

Supplemental Reference from MedEd Portal